

What is Claimed is:

1. An inorganic antibacterial agent containing high-valence silver, which are characterized by containing 2 to 6% by weight divalent silver, trivalent silver or tetravalent silver based on total weight of the antibacterial agents, wherein said high-valence silver is supported onto a solid carrier by an ion exchange reaction.

2. The inorganic antibacterial agent containing high-valence silver, as recited in claim 1, wherein said solid carrier is selected from a group consisting of sodium zirconium-phosphate, titanium phosphate, tin phosphate and zeolite.

3. The inorganic antibacterial agent containing high-valence silver, as recited in claim 2, wherein said zeolite is selected from a group consisting of A-type zeolite, X-type zeolite, and Y-type zeolite.

4. The inorganic antibacterial agent containing high-valence silver, as recited in claim 1, further containing 3.7% by weight of said divalent silver, said trivalent silver or said tetravalent silver based on a total weight of said antibacterial agent.

5. The inorganic antibacterial agent containing high-valence silver, as recited in claim 1, wherein an average particle diameter of said inorganic antibacterial agent is ranged from 1.0 – 10.0 μm , preferably 1.0 – 2.0 μm .

6. A method for preparing an inorganic antibacterial agent containing high-valence silver, comprising the following steps:

adding a solid carrier, which is capable of ion exchange, into a solution containing high-valence silver;

substantially stirring said solution to obtain a pulp formed solution for enabling an ion exchange reaction between said high-valence silver ion and the exchangeable ion of said solid carrier to yield a solid compound, and

filtering and drying said solid compound to ultimately obtain said inorganic antibacterial agent containing high valence silver.

7. The method, as recited in claim 6, wherein said solution containing high-valence silver is prepared by dissolving silver peroxide into persulphate or concentrated nitric acid to generate water solution containing bivalent silver, periodic acid solution containing trivalent silver, and silver acid solution containing tetravalent silver.

5 8. The method, as recited in claim 6, wherein said solid carrier is selected from a group consisting of sodium zirconium phosphate, titanium phosphate, tin phosphate and zeolite.

9. The method, as recited in claim 6, wherein a volume ratio between said solid carrier and said solution containing high-valence silver is 1:6-10, preferably 1:8.

10 10. The method, as recited in claim 6, wherein said ion exchange reaction between said high-valence silver and said solid carrier is reacted at a predetermined condition, wherein a pH value is ranged 1-5, preferably 3-5, temperature ranged 30°C to 80°C, preferably 55°C to 65°C, best at 55°C, reacting time ranged 2-8 hours, preferably 4-6 hours, wherein 20% NaOH or KOH is applied for adjusting said pH value.

15 11. The method, as recited in claim 6, wherein said filtering and drying step further comprises sub-steps for washing a filter cake until a pH value ranged between 5-6, preferably 6, and for drying said filter cake at a temperature between 110 °C - 140 °C, preferably at 120 °C for 1 – 2 hours.

20 12. The method, as recited in claim 6, further comprising a step for calcinating said solid compound between 800 °C to 1000 °C, preferable at 900 °C, for 2 – 4 hours, preferable 2 hours, and a step for grinding said solid compound by a gas flow pulverizer to obtain particles with a size of average diameter of 1.0 – 10.0 μm, preferably 1.0 – 2.0 μm.

25 13. comprising antibacterial clothing, antibacterial daily products, antibacterial plastic products, antibacterial medical and mechanical devices, antibacterial structure materials, antibacterial ceramics , antibacterial sanitary ware, and antibacterial home electronic appliances.